



US009662303B2

(12) **United States Patent**
Williams et al.

(10) **Patent No.:** **US 9,662,303 B2**
(45) **Date of Patent:** **May 30, 2017**

(54) **COMPOSITION AND METHOD FOR
TREATING CANCER**

(75) Inventors: **Lawrence A.D. Williams**, St. Catherine
(JM); **H. George Levy**, Royal Oak, MI
(US)

(73) Assignee: **PG-Pharma, LLC**, Monroe, MI (US)

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/804,514**

(22) Filed: **May 18, 2007**

(65) **Prior Publication Data**

US 2008/0070839 A1 Mar. 20, 2008

Related U.S. Application Data

(60) Provisional application No. 60/825,843, filed on Sep.
15, 2006, provisional application No. 60/919,601,
filed on Mar. 24, 2006.

(51) **Int. Cl.**

A61K 31/105 (2006.01)

A61K 38/38 (2006.01)

A61K 47/48 (2006.01)

(52) **U.S. Cl.**

CPC **A61K 31/105** (2013.01); **A61K 38/38**
(2013.01); **A61K 38/385** (2013.01); **A61K**
47/48284 (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2005/0261321 A1* 11/2005 Xu et al. 514/269

OTHER PUBLICATIONS

Williams et al. (West Indian Medical J. Jan. 2007, 56 (1): 17-21).*

Williams et al. (Recent Research Developments in Phytochemistry
2002, 6: 13-68)t.*

Williams et al. (Recent Research Developments in Phytochemistry
2002, 6: 13-68).*

Benzyl Trisulfide (National Center for Biotechnology Information.
PubChem Compound Database; CID=122842, <https://pubchem.ncbi.nlm.nih.gov/compound/122842> (accessed Sep. 26, 2016).*

Albumin from Bovine Serum (Sigma-Aldrich, Product Information
May 2, 2000).*

* cited by examiner

Primary Examiner — Peter J Reddig

(74) *Attorney, Agent, or Firm* — Stefan J. Kirchanski;
Zuber Lawler & Del Duca, LLP

(57)

ABSTRACT

The present invention provides a compound for treating cancer including an isolated form of dibenzyl trisulfide (DTS) provided in an effective amount to act as an agent against human diseases, including various forms of cancer. The present invention also provides a compound for treating cancer including DTS isolated from *Petiveria alliacea* L. (guinea hen weed) for providing an effective, potent anti-proliferation and/or cytotoxic activity on a wide range of cancer cell lines. The present invention further provides DTS derivatives (e.g. DTS-albumin complexes) in effective dosage for providing a potent anti-proliferation and/or cytotoxic activity on a wide range of cancer cell lines. Additionally, the present invention provides methods of isolating and/or providing the DTS and/or its derivatives in an effective amount for providing a potent anti-proliferation and/or cytotoxic activity on cancer cell lines.

8 Claims, 1 Drawing Sheet